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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,714	10/30/2001	Kenneth H. Potter	112025-0465	2291
24267	7590	01/09/2006	EXAMINER	
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			JAIN, RAJ K	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/021,714	<b>Applicant(s)</b> POTTER ET AL.	
	<b>Examiner</b> Raj Jain	<b>Art Unit</b> 2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claims 1-29 examined on the merits.

#### ***Claim Objections***

Claims 1, 22, 24, 26 and 29 are objected to because of the following informalities: The word "reassembling" within all above subject claims is misspelled. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 101***

Claims 1, 11, and 24 rejected under 35 U.S.C. 101 because the claims recite "data structure" such as a packet format having different fields is itself non-statutory.

Claim 28 rejected under 35 U.S.C. 101 because Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly v. Morse, 56 U.S. (15 How.) 62, 112-14 (1853).

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchholz et al (US005440545A).

Regarding claim 1, Buchholz discloses a method for reassembling a packet (see abstract, Figs. 2, and 8 col 8 lines 37- col 9 line 8, packet reassembly is performed based on the reassembly header information in Fig. 6 directing where in data memory 234 each fragment 312 in Fig. 3 will be stored. A reassembly ID 802 is used in conjunction with reassembly registers 810 in storing and properly reassembling the packets originating from one or more devices) the method comprising of:

- locating a fragment packet descriptor associated with the packet (see Figs. 4 & 5, col 6 lines 16-39, a fragment packet 440 as transmitted contains the packet header 420 information within which (detailed in Fig. 5) contains the virtual circuit ID contained in packet switch 140 of Fig. 2. The virtual circuit ID addresses a queue control block which in turn points to packet descriptors, thus a fragment packet descriptor associated with a packet is located using virtual circuit ID pointers); and

- placing the contents of the fragment packet descriptor in a packet descriptor associated with the packet (again see Figs. 4 & 5, col 6 lines 16-39, a fragment packet 440 as transmitted contains the packet header 420 information within which (detailed in Fig. 5) contains the virtual circuit ID contained in packet switch 140 of Fig. 2. The virtual circuit ID addresses a queue control block which in turn points to packet descriptors, thus a fragment packet descriptor associated with a packet is located using virtual circuit ID pointers, furthermore, the contents 510 therefore of a specific packet descriptor are associated with a specific packet fragment 440 as transmission packet).

Regarding claim 7, Buchholz discloses a system for reassembling a packet. The system by nature includes a method for performing a specific task of reassembling packets and sending acknowledgement notices within a specific apparatus (in this case the switch) that performs the desired task at hand (see abstract, Figs. 2 & 8, col 8 lines 37- col 9 line 8, packet reassembly is performed based on the reassembly header information in Fig. 6 directing where in data memory 234 each fragment 312 in Fig. 3 will be stored. A reassembly ID 802 is used in conjunction with reassembly registers 810 in storing and properly reassembling the packets originating from one or more devices) the system comprising of:

- means for locating a fragment packet descriptor associated with the packet (see Figs. 4 & 5, col 6 lines 16-39, a fragment packet 440 as transmitted contains the packet header 420 information within which (detailed in Fig. 5) contains the virtual circuit ID contained in packet switch 140 of Fig. 2. The task is performed via the virtual circuit ID addresses a queue control block which in turn points to packet descriptors, thus a fragment packet descriptor associated with a packet is located using virtual circuit ID pointers); and

- means for placing the contents of the fragment packet descriptor in a packet descriptor associated with the packet (again see Figs. 4 & 5, col 6 lines 16-39, a fragment packet 440 as transmitted contains the packet header 420 information within which (detailed in Fig. 5) contains the virtual circuit ID contained in packet switch 140 of Fig. 2. The task is performed via the virtual circuit ID addresses a queue control block

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which in turn points to packet descriptors, thus a fragment packet descriptor associated with a packet is located using virtual circuit ID pointers, furthermore, the contents 510 therefore of a specific packet descriptor are associated with a specific packet fragment 440 as transmission packet).

Regarding claims 11 and 17, Buchholz discloses a system for reassembling a packet. The system by nature includes a method for performing a specific task of reassembling packets and sending acknowledgement notices within a specific apparatus (in this case the switch) that performs the desired task at hand (see abstract, Figs. 2 & 8, col 8 lines 37- col 9 line 8, packet reassembly is performed based on the reassembly header information in Fig. 6 directing where in data memory 234 each fragment 312 in Fig. 3 will be stored. A reassembly ID 802 is used in conjunction with reassembly registers 810 in storing and properly reassembling the packets originating from one or more devices) the system comprising of:

- a method and means for receiving a plurality of fragments associated with the packet (see Figs. 2-5, col 1 lines 36-53, col 5 lines 53- 67, col 9 lines 25-37, a plurality of fragmented packets are received at the receiving device with header information and control information);

- a method and means for determining if all the fragments for the packet have been received (see Figs. 2-5, col 1 lines 36-53, col 5 lines 53- 67, col 9 lines 25-37, a plurality of fragmented packets are received at the receiving device with header information and control information, an ACK or acknowledgement signal is sent back to

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the source device identifying which fragment if any of the data packet have been received or not.); and

- a method and means for issuing a request to a reassembly assist function if all the fragments for the packet have been received (see Fig. 10, col 11 lines 34-40, col 13 lines 62-67 a request is issued for retransmission only if a fragment of a data packet is lost or corrupted, otherwise a request is issued or an ACK is sent to the reassembly module 214 of Fig. 2 as each fragment is received at the receiving source. A packet complete 1140 is issued when all fragments of a fragmented data packet are received.).

Regarding claim 21, Buchholz discloses a system for reassembling a packet. The system by nature includes a method for performing a specific task of reassembling packets and sending acknowledgement notices within a specific apparatus (in this case the switch) that performs the desired task at hand (see abstract, Figs. 2 & 8, col 8 lines 37- col 9 line 8, packet reassembly is performed based on the reassembly header information in Fig. 6 directing where in data memory 234 each fragment 312 in Fig. 3 will be stored. A reassembly ID 802 is used in conjunction with reassembly registers 810 in storing and properly reassembling the packets originating from one or more devices) the system comprising of:

- a processor (see 110 of Fig. 1b, col 3 lines 40-47.)

- reassembly assist configured to communicate with the processor (see 214 of Fig. 2 which is a detailed view of packet switch 140 of Fig. 1);

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- a processor for receiving a plurality of fragments associated with the packet (see Figs. 2-5, col 1 lines 36-53, col 5 lines 53- 67, col 9 lines 25-37, a plurality of fragmented packets are received at the receiving device with header information and control information);

- determining if all the fragments for the packet have been received (see Figs. 2-5, col 1 lines 36-53, col 5 lines 53- 67, col 9 lines 25-37, a plurality of fragmented packets are received at the receiving device with header information and control information, an ACK or acknowledgement signal is sent back to the source device identifying which fragment if any of the data packet have been received or not.); and

- issuing a request to a reassembly assist function to reassemble the packet have been received (see abstract, Figs. 2 & 8, col 8 lines 37- col 9 line 8, packet reassembly is performed based on the reassembly header information in Fig. 6 directing where in data memory 234 each fragment 312 in Fig. 3 will be stored. A reassembly ID 802 is used in conjunction with reassembly registers 810 in storing and properly reassembling the packets originating from one or more devices).

Regarding claims 22, 24, 26, 28 and 29, Buchholz discloses a method and apparatus and system (see col 1 lines 10-14) for reassembling a packet, the method comprising the steps of:

-receiving a fragment packet having a fragment packet descriptor associated therewith (see Figs. 2-5, col 1 lines 36-53, col 6 lines 16-34, fragmented packets are received at the receiving device with header information and control information and



having a fragment packet descriptor associated therewith see Fig. 5 and col 6 lines 16-34),

-placing the contents of the fragment packet descriptor in a packet descriptor in a reassembly table associated with the packet (see abstract, Figs. 2 & 8, col 8 lines 37-col 9 line 8, packet reassembly is performed based on the reassembly header information in Fig. 6 directing where in data memory 234 each fragment 312 in Fig. 3 will be stored. A reassembly ID 802 is used in conjunction with reassembly registers 810 in storing and properly reassembling the packets originating from one or more devices. Also see Figs. 4 & 5, col 6 lines 16-39, a fragment packet 440 as transmitted contains the packet header 420 information within which (detailed in Fig. 5) contains the virtual circuit ID contained in packet switch 140 of Fig. 2. The task is performed via the virtual circuit ID addresses a queue control block which in turn points to packet descriptors, thus a fragment packet descriptor associated with a packet is located using virtual circuit ID pointers, furthermore, the contents 510 therefore of a specific packet descriptor are associated with a specific packet fragment 440 as transmission packet.); and

-in response to receiving all the fragments for the packet, issuing a request to a reassembly assist function (see Fig. 10, col 11 lines 34-40, col 13 lines 62-67 a request is issued for retransmission only if a fragment of a data packet is lost or corrupted, otherwise a request is issued or an ACK is sent to the reassembly module 214 of Fig. 2 as each fragment is received at the receiving source. A packet complete 1140 is issued when all fragments of a fragmented data packet are received.).

Further with respect to claim 29, Buchholz discloses a computer readable media (see Fig. 1B reference 110 the processor used to communicate with the switch 140 and network interface 120).

Regarding claims 2 and 8, Buchholz discloses a system with method and means for locating a fragment packet descriptor locating an entry in a reassembly table associated with the packet; and dereferencing a pointer held in the entry to locate the fragment packet descriptor (see Figs. 2, 5, and 8, col 8 line 37- col 9 line 25, a packet descriptor 510 identifies a particular packet within the packet control table 812 and as the queue for each packet fragment is used, the packet switch 140 of Fig. 2 removes the packet control block out of queue and processor 110 of Fig. 1 returns the empty queue back to the control blocks 814-818.).

Regarding claims 3, and 9, Buchholz discloses a system with method and means for receiving a request to reassemble the packet (see abstract, Figs. 2 & 8, col 8 lines 37- col 9 line 8, packet reassembly is performed based on the reassembly header information in Fig. 6 directing where in data memory 234 each fragment 312 in Fig. 3 will be stored. A reassembly ID 802 is used in conjunction with reassembly registers 810 in storing and properly reassembling the packets originating from one or more devices).

Regarding claims 4, and 12, Buchholz discloses a system with method for an index to an entry in a reassembly table that is associated with the first fragment of the packet; and a length value that is a count of the total number of entries in the reassembly table that are associated with the packet (see Figs. 3-5, col 5 line 54 – col 6

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line 45, each packet fragment is sequenced and contains appropriate control information and packet length 520 within the packet header 420 which identifies the packet length being transmitted).

Regarding claims 5, and 10, Buchholz discloses a system with method and means for deallocating the fragment packet descriptor (see col 13 lines 39 – 60, a change in sequence number causes the central processor 110 to stop and reclaim resources allocated by the hardware).

Regarding claims 6, and 16, Buchholz discloses a computer readable medium that includes computer executable instructions for performing the method recited in claims 1 and 11 (see col 3 lines 11-29).

Regarding claims 13, 15, 18 and 20, Buchholz discloses a method and means for examining a bit map that indicates whether or not the fragments have been received or not (see Fig. 12, col 10 line 52 – col 11 line 6, the bitmap field 1212 consists of a status bit of the original fragment packet).

Regarding claims 14, and 19, Buchholz discloses a method and means for tracking a fragment of the packet (see col 12 lines 37-52).

Regarding claims 23, 25 and 27, Buchholz discloses determining if all fragments have been received (see col 10 line 53 – col 11 line 23).

### ***Response to Arguments***

Applicant's arguments filed 4 November 2005 have been fully considered but they are not persuasive.

With respect to Claim 1: Applicant contends " Buchholz fails to describe packet descriptor having the contents of **all** the fragment packet descriptors placed therein. Furthermore, the packet descriptor is not part of the packet only associated with the packet. Additionally, the packet descriptor is used by queuing and packet logic of the router to further process the packet outside the processor. That is, Buchholz is silent concerning using packet descriptor associated with the packet."

Examiner respectfully disagrees. First of claim 1 does not recite **all** fragment packet descriptors and therefore the argument is moot in that regards. However, Buchholz does disclose packet descriptors see Figs 2-5 and reference 510, col 6 lines 16-39, a fragment packet 440 as transmitted contains the packet header 420 information within which (detailed in Fig. 5) contains the virtual circuit ID contained in packet switch 140 of Fig. 2. The virtual circuit ID addresses a queue control block which in turn points to packet descriptors, thus a fragment packet descriptor associated with a packet is located using virtual circuit ID pointers. Thus clearly Buchholz does disclose packet descriptors associated with the packet and therefore claim 1 stands rejected.

With respect to claim 11, applicant contends here in part "issuing a request to a reassembly assist function if all the fragments for the packet have been received." Buchholz only discloses sending an ACK upon receipt of all fragments to signal all fragments were properly received. In sharp contrast, Applicant's invention claims issuing a request for reassembly to allow packets to be reassembled **outside** of the processor."

Examiner respectfully disagrees, first off, nowhere within claim 11 is it stated the reassembly of packets "outside" of the processor and thus this argument is moot.

Examiner concurs that Buchholz does disclose sending an ACK for receipt of all fragments which is to avoid retransmission of unnecessary packets, however, Buchholz also discloses sending an Packet Complete interrupt 1140 (see Fig. 11, col 13 lines 4- col 14 line 5) when all fragments of a fragmented data packet are received. Thus Buchholz does disclose the recited limitation of claim 11 and therefore claim 11 stands rejected.

Applicants newly added claims 22-29 have been examined on the merits and rejected under cited references accordingly.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj Jain whose telephone number is 571-272-3145. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax number for the organization where this application is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

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RJ  
January 5, 2006

  
**Ajit Patel**  
**Primary Examiner**